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NJOY Status

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T-2, Nuclear & Particle Physics, Astrophysics and Cosmology Group

Theoretical Division

Los Alamos National Laboratory

2013 CSEWG Meeting / Nuclear Data Week

Brookhaven National Laboratory

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Abstract: We provide a summary review of recent changes to the T-2 Group web site with particular emphasis on the “Nuclear Information Service” and the NJOY Nuclear Data Processing Code System.

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<http://t2.lanl.gov>

The <http://t2.lanl.gov> web address now serves as the top level for LANL's T-2 (Nuclear & Particle Physics, Astrophysics and Cosmology) Group.

The “Nuclear Information Service”, which was the previous top level, is now one of several links found to the left on this new top level page.

The “Nuclear Information Service” url is <http://t2.lanl.gov/nis>.

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T-2, Nuclear and Particle Physics, Astrophysics and Cosmology

T Division

FOCUS AREA S

- Nuclear Information Service
- Nuclear Physics
- Particle Physics
- Astrophysics
- Cosmology

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T-2 Home

Radius of the Visible Universe

Big Bang Inflation Quark Soup Big Freeze Out Parting Company First Galaxies Modern Universe

Age of the Universe

0 10⁻⁴² Sec. 1 Second 300,000 Years 1 Billion Years 12-15 Billion Years

We provide scientific and technical leadership in fundamental and applied theoretical research in [applied](#) and [fundamental](#) nuclear physics, [particle](#) physics, [astrophysics](#), and [cosmology](#). Members of the *Nuclear, Particle, Astrophysics and Cosmology Group (T-2)* of the *Theoretical Division* frequently contribute and collaborate beyond these core disciplines as opportunities arise.

The group maintains theory, modeling and simulation capabilities in a broad set of areas. Current activities of our group's members include research in nuclear reactions and structure for applied and basic science, nuclear many-body theory, nuclear reaction theory, fission, nuclear data evaluation, processing and validation testing for applications that include stockpile stewardship, threat reduction, and energy security, heavy ion physics, nuclear astrophysics, physics beyond the standard model, neutrino physics, lattice quantum chromodynamics, nonequilibrium field theory, astroparticle physics, high energy astrophysics, proto-planet formation and migration, astrophysical data analysis and processing, plasma astrophysics, cosmology and galaxy formation, gravitation and gravitational waves, precision cosmology, and dark matter and dark energy, to name a few.

T-2 Resources

- Seminars
- Group Roster
- Group Roster (pdf)
- Jobs
- DOE Office of Science Programs
 - Nuclear Physics
 - High Energy Physics
 - Fusion Energy Sciences
- NNDC
- RSICC
- NEA
- US Nuclear Data Program

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<http://t2.lanl.gov/nis>

All “Nuclear Information Service” features, including links to Data, Codes, Publications and Training, that were previously available remain.

Any bookmark that contained “t2.lanl.gov” should be changed to read “t2.lanl.gov/nis”.

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Welcome to the T-2 Nuclear Information Service.

This service is run by Group T-2, Nuclear and Particle Physics, Astrophysics, and Cosmology of the Los Alamos National Laboratory, which is operated by Los Alamos National Security LLC (LANS) for the Department of Energy.

This site concentrates on nuclear modeling, nuclear data, cross sections, nuclear masses, ENDF, NJOY data processing, nuclear astrophysics, radioactivity, radiation shielding, data for medical radiotherapy, data for high-energy accelerator applications, data and codes for fission and fusion systems, and more.

Use the links to the left to access the various features of our site.

The **Tour area** contains educational material on the field of nuclear data and information on how to use our site effectively.

The **Data area** contains various sets of nuclear data that can be browsed, downloaded, or viewed graphically. It also includes the online Nuclear Data Viewer.

The **Codes area** contains information on computer codes for nuclear data that we have developed in the course of our work.

The **Publications area** contains publications about nuclear data and techniques for working with nuclear data.

The **Training area** contains online training courses for the ENDF evaluated nuclear data files and the NJOY nuclear data processing system.

Related Sites

National Nuclear Data Center (NNDC)

Radiation Safety Information Computational Center (RSICC)

Nuclear Energy Agency (NEA) Data Bank

IAEA Nuclear Data Centre

JAEA Nuclear Data Center

Red Cullen's Web Site

News

10 Jan 2013 -- NJOY 99.393 released. Check the Codes Area.

3 Feb 2012 -- The formal papers on ENDF/B-VII.1 from *Nuclear Data Sheets* are now available in the publications area for scholarly use.

12 Jan 2012 -- ENDF/B-VII.1 neutron and decay data are now available from our site. Go to the ENDF/B link in the Data area.

22 Feb 2011 -- NJOY 99.364 released. It has changes to support JENDL-4 and ENDF/B-VII.1, and it includes modifications for consistency with NJOY10.

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<http://t2.lanl.gov/nis/codes.shtml>

This url provides links to both NJOY99 and NJOY2012.

Future development of NJOY99 will be very limited.

NJOY2012 distribution is coordinated through LANL's Technology Transfer Division.

Contact information may be found at <http://t2.lanl.gov/nis/transfer.html>

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T-2 Nuclear Information Service

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Codes Area

This area gives information on various computer codes used in our nuclear data work.

NJOY99

NJOY99 is the standard Fortran-77 release of the NJOY Nuclear Data Processing System. The system is used to convert evaluated nuclear data in the Evaluated Nuclear Data Format (ENDF) into forms useful for a wide range of nuclear applications. This area is only to provide user support, such as updates and sample problem outputs. To obtain an official copy of NJOY99, contact one of the code centers (RSICC, NEA-Data Bank, etc.).

NJOY 2012

NJOY 2012 is a new version of the NJOY Nuclear Data Processing System using Fortran-90/95 style. It includes all the capabilities of NJOY 99 plus an ability to process evaluations using the newer Reich-Moore Limited (RML) resonance format now allowed in ENDF files. The NJOY 2012 User Manual LA-UR-12-27079_Rev is available here and in the Publications area. For an alternative description of NJOY 2012, see the [Nuclear Data Sheets article](#).

TRANSX 2

TRANSX is a code for preparing data tables for nuclear transport codes from cross-section libraries in MATXS format. An online [HTML instruction manual](#) is available.

News

The latest version of NJOY99 (99.396) was released in August of 2013 with an effective date of 8 August 2013.

NJOY2012 was originally released in February 2012 with an effective date of 21 Dec 2012. The code is being made available through the Technology Transfer Office at Los Alamos. Contact information is [here](#).

The latest version of NJOY2012, designated NJOY2012.8 was released in August of 2013 with an effective date of 8 August 2013.

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<http://t2.lanl.gov/nis/codes/NJOY12/index.html>

The basic page layout is virtually identical to that used for NJOY99

One change is that the manual is available as a downloadable pdf file.

Basic installation instructions are contained in the “Readme0” link; cursory information on the various updates is available in the “Readme#” link.

Test suite input and output files are available.

NJOY 2012
Nuclear Data Processing System

The NJOY 2012 User Manual LA-UR-12-27079 Rev (pdf):
[Report](#)

Basic Instructions:
[Readme0](#)

Current Description:
[Readme8](#)

Latest Updates:
[up8](#)

User Input Instructions:
[Userinp](#)

Interface File Formats:
[Ifiles](#)

Test Problem Input and Output Files:

These test results are from a Mac workstation running the Intel ifort compiler with -fast (see [makef.int](#)). NJOY2012 can also be run using the free g95 compiler on Mac or linux (see [makef.g95](#)) or the GFortran compiler included on most linux distributions (see [makef.gfn](#)). Windows users can run the test problems using the free g95 compiler (see [makef.win.g95](#)) or the Intel ifort compiler (see [makef.win.ifort](#)). Convenient scripts for installing NJOY12 on Windows machines are available here as [makeNJOY.win1.bat](#) and [makeNJOY.win2.bat](#).

Problem	Input	Outputs	DOS Input
1	in01	out01 , pend01	run01.bat , in01.dat
2	in02	out02 , pend02	run02.bat , in02.dat
3	in03	out03 , pend03	run03.bat , in03.dat



NJOY2012

- NJOY2012.0 was released in December, 2012
- NJOY2012.8 was released in August, 2013.
 - Additional patches are being prepared for release in December, 2013.

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